HJR

13

February 6, 1975

Mr. Rodger Peguez
Attorney General's Office
Pouch "K"
Juneau, Alaska 99801

Dear Rod:

Re: Problems Surrounding Present Timber Sales

On behalf of the Alaska Loggers Association I invite you to our offices to commence conversations designed to identify problems surrounding proposed timber sales and to narrow the issues which presently may be contributing to misunderstanding. The further objective of such meetings would be to identify items which might be worthy of inclusion on an agenda for a meeting between State, Federal and Industry policy makers. It is likely that a series of discussions will have to be held to achieve the goals set forth herein. Accordingly, it would seem wise to begin at the earliest possible moment.

Please advise whether or not the State, through your office, would be amenable to such discussions. As I envision it, it would be appropriate at this time that the only participants be the lawyers representing the various interests involved. In addition, it would be most helpful to keep the meeting small so that conversations can move rapidly. Therefore, the Alaska Loggers Association will be represented by Bill Royce, from Ketchikan, and myself. I intend, also, to invite Al Gaskill from the Forest Service. If it would be possible to limit your delegation to two or three persons it would expedite our conversations. Naturally, more persons should be included in these meetings as the discussions develop.

I am looking forward to hearing from you on this matter.

Yours very truly,

James F. Clark

c.c. Mr. Al Gaskill
Mr. Robert Jernberg
Mr. Clarence Kramer
Mr. Jim Rynearson

JFC:k

March 4, 1975

Mr. Jan VanDort
Faulkner, Banfield, Doogan & Holmes
Suite 201, 311 Franklin Street
Juneau, Alaska 99801

Dear Jan;

Thank you for your letter of February 25th endorsing House Joint Resolution No. 13. I certainly concur with all you say and in fact -- as you are probably aware -- I am co-sponsor on this resolution.

The bill has presently been assigned to Resources Committee and by copy of this letter I am asking the Chairman of the Committe, Mr. Nels Anderson, to have his staff call your office when hearings are scheduled, so that if you wish you will be able to give testimony directly to the committee. I am also sending the Chairman copies of the information which you provided.

Again, thank you for taking the time to write. Best personal regards.

Sincerely,

Mike Miller

cc: Nels Anderson, Chairman
House Resources Committee

REPRESENTATIVE
MIKE MILLER
ALASKA STATE LEGISLATURE
P.O. BOX 1494
JUNEAU ALASKA 99802
HOME PHONE 586-3067
LEGISLATIVE PHONE 465-3739

HOUSE MAJORITY LEADER
VICE CHAIRMAN, LEGISLATIVE COUNCIL
VICE CHAIRMAN, STATE AFFAIRS COMMITTEE
MEMBER, RULES COMMITTEE
MEMBER, COMMITTEE ON COMMITTEES

LAW OFFICES OF
FAULKNER, BANFIELD, DOOGAN & HOLMES
SUITE 201, 311 FRANKLIN STREET
JUNEAU, ALASKA 99801
TEL. 586-2210
AREA CODE 907

HERBERT L. FAULKNER (1882-1972)
NORMAN C. BANFIELD
FRANK M. DOOGAN
MICHAEL M. HOLMES
RANDALL J. WEDDLE
WILLIAM B. ROZELL

JAN VAN DORT
LAWRENCE T. FEENEY
CHARLES N. BRENNAN

February 25, 1975

The Honorable Mike Miller
Representative, Alaska State Legislature
Pouch V
Juneau, Alaska 99811

Re: House Joint Resolution No. 13

Dear Representative Miller:

In August, 1974, I had the opportunity to spend approximately 10 days on the island of Afognak photographing bear, elk and red salmon with Joel Bennett, a noted local nature photographer. I found this island to be of almost unimaginable and even mystical beauty. In some areas it seems almost like the Quetico National Forest and Boundary Waters Canoe Area in northern Minnesota and southern Ontario. The beauty of Afognak Island is matched only by the area of Admiralty Island running from Mitchell Bay up through Hasselborg Lake.

During the course of this visit we were able to photograph several very large brown bear and magnificent bull elk at distances of less than 25 yards.

I do not object to logging per se but the only way to describe the clear cuts planned by the Forest Service is "criminal". It is very difficult for me to imagine how anyone who has ever been to Afognak Island could advocate or even accept the planned logging activity. It literally tears my heart out to think that the priceless treasure like this island could be ravaged for the purpose of making toilet paper for the Japanese.

I urge you to take a moment and read the article which I have enclosed. It was the end result of the time Joel Bennett and I spent on the island. Thank you.

Very truly yours,

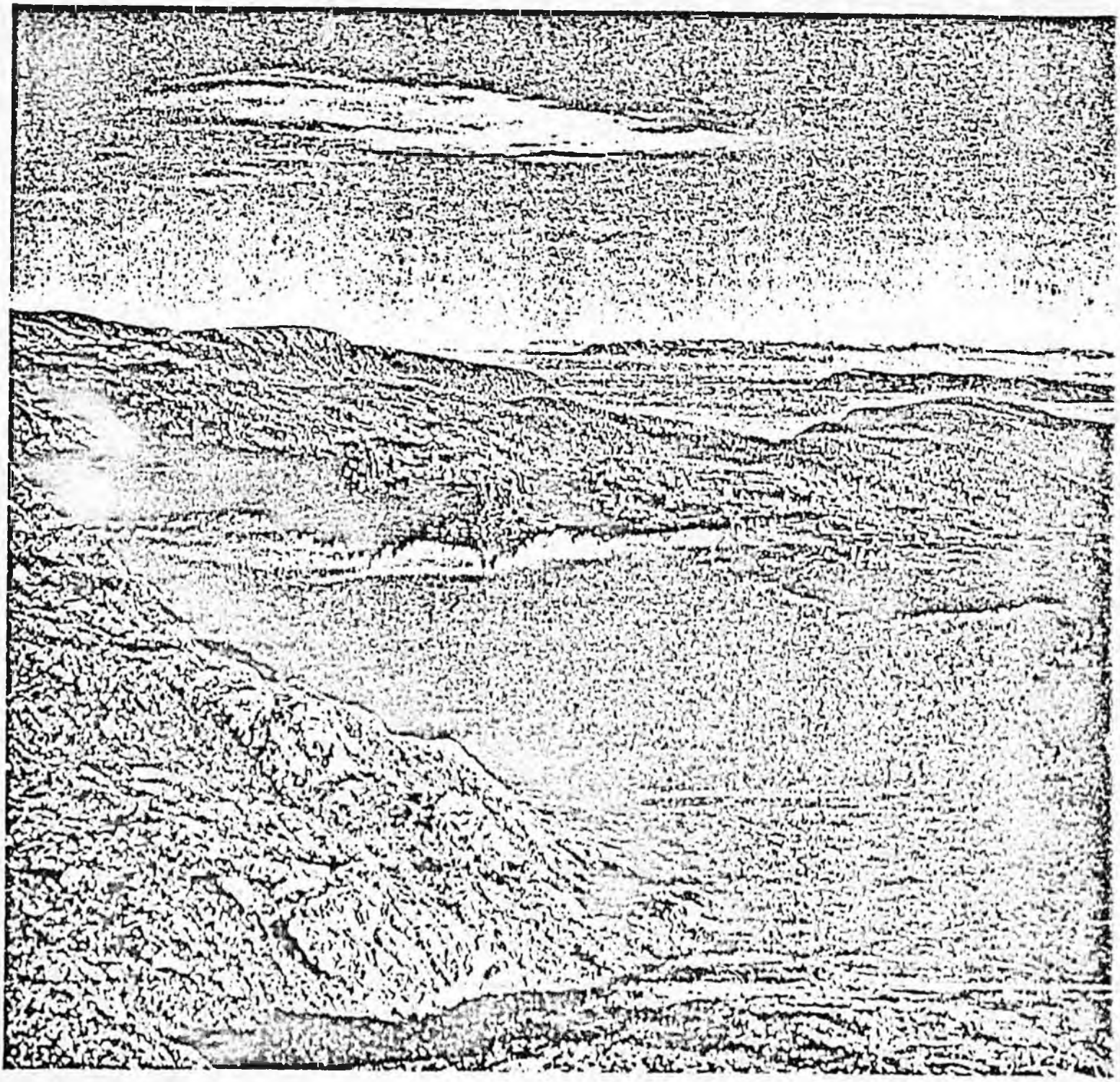
FAULKNER, BANFIELD, DOOGAN & HOLMES

Jan Van Dort

JVD:np
Enclosure

JOEL BENNETT AND
GORDON ROBINSON

AFOGNAK—Unique



"As usual, Alaskan timber is earmarked for Japan."

and Threatened

Joel Bennett

ISLANDS IN ALASKA number in the thousands, so it is not likely that the mention of Afognak will inspire immediate recognition or alarm in most people. However, there is ample cause for both. In pursuing its apparent policy of considering the commercial harvest of timber as its primary goal, the U.S. Forest Service in 1966, with the concurrence of a state task force appointed by then Governor Walter J. Hickel, began preparing the Perenosa Timber Sale on Afognak Island.

Although widely opposed by the public and pointedly questioned by governmental agencies, the Forest Service began to implement the Perenosa timber sale in June, 1974, with the construction of a preliminary logging road and work camp. The Forest Service's actions on Afognak echo its practices in timber sales elsewhere: make an immediate commitment, but postpone a complete evaluation of the environmental impact of the sale. John McGuire, Chief of the Forest Service, has turned down an appeal filed by the Alaska Conservation Society and the KONIAG Native Association to reconsider the terms of the sale. The decision now rests with Secretary of Agriculture Earl Butz. The Forest Service has denied a stay pending appeal, so purchasers are going ahead with road building in preparation for full-scale logging.

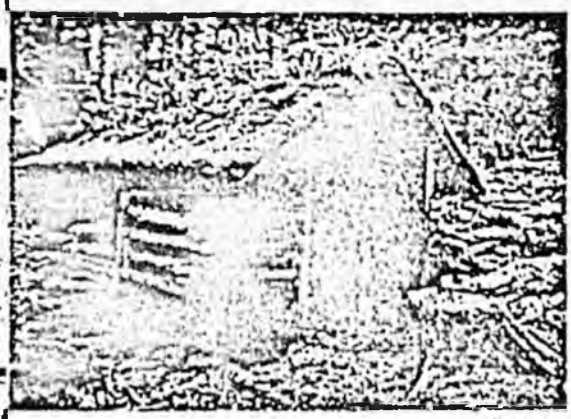
Afognak Island is located 250 miles southwest of Anchorage, Alaska's largest city. Its latitude approximately bisects southeastern Alaska, making its climate more like that of Juneau than Anchorage. Aleut natives, who named the island, originally settled there to harvest its rich salmon resources, but with those resources depleted it has been only sparsely inhabited since then. In the 18th century, the Russians occupied and exploited Afognak; later, the English explored and mapped its coastline. The only modern-day village, Afognak, was abandoned following the 1965 Alaska earthquake, and present-day maps indicate that human activity has had little impact there. Not for long.

The terms of the Perenosa sale, made five years ago, called for clearcutting 525 million board feet on a 15-year contract, with about 21,000 acres to be clearcut in 73 units. There has been no cutting under this contract to date, however, because the purchasers of the timber originally bid far too much money for it. Now that prices are up, they have once again become interested. So the Forest Service has obligingly agreed to let them cut for ten years instead of 15—at the same rate per year, 35 million board feet. In other words, in response to adverse public reaction to the original terms of the sale, the Forest Service has pretended to revise the cutting plan. Although the new plan calls for a 37-percent decrease in the sales volume, smaller cutting units, and a greater distribution of these units, the timber will still be cut at the same rate per year. Though reduced in size, the cutting units are still too large, and the allowable cut is far too high, as in other places where the populace has problems with the Forest Service. As usual, Alaskan timber is earmarked for sale to Japan.

The Forest Service's claim that environmental considerations motivated their revision of the contract is suspect. In a settlement of the Sierra Club's roadless-area suit of 1972, the Forest Service agreed to do environmental impact statements on all actions affecting roadless areas, including five-year "redeterminations" of contracts, of which Afognak was one. Proceeding under the original sale contract, but on a ten-year basis, would have violated the Multiple-Use

Sustained Yield Act of 1960, since sustained yield on Afognak (approximately 37 million board feet a year) would have been exceeded by about 15 million board feet.

Cutting Afognak under either of the plans that have been offered measures land values in narrow economic terms. Compared with commercial timber elsewhere in the Chugach National Forest, the Afognak cut promises to be by far the largest yet; in the last six years, no Chugach sale has exceeded four million board feet. It is clearly an irrevocable commitment of a large



Joel Bennett

roadless area to commercial ends precisely at a time when the public seems least willing to do so.

Recreational opportunity on Afognak overwhelms even the casual visitor, but because there have been few visitors to the island, few people appreciate what exists there. What does exist is unique and compels a halt to all further sale operations until there has been a chance to evaluate alternatives for land use on the island.

Future native land selections, under the Alaska Native Claims Settlement Act, will affect drastically the amount of land available for public use on Afognak. The island's total area is about 400,000 acres, 70,000 of which, at the very least, will be selected by Afognak Village. Other claims of eligibility exist from at least four villages not listed in the act, but these may be approved by the Department of the Interior. In addition, two approved villages on Kodiak have partial selection rights on Afognak. Future selections by all these villages could occur on Afognak, significantly limiting the amount of public land remaining there. This possibility, combined with the Forest Service's large-scale commitment to timber cutting, may leave little for the rest of the public to use.

Upon visiting Afognak, one is startled with the unusual pattern of the island's vegetation, which is so unusual, in fact, that the Forest Service acknowledged in its Final Environmental Impact Statement of April 15, 1974, that "its unique characteristics are not found elsewhere in the United States or Alaska." Generally, the pattern is a park-like combination of open treeless grasslands and stands of Sitka Spruce. These areas alternate with no particular regularity, affording gentle rolling hiking for the feet and diversity for the eye. The brush-grass-spruce ecosystem represents the picturesque meeting of the dense rainforest common to southeast Alaska with the open, treeless expanses of the Aleutian Islands. Kodiak Island, Afognak's neighbor, shows some evidence of this transition, or ecotone, but on nowhere near the scale found on Afognak.

One-half of Afognak is unforested. Logging, then, must occur on only one-half the island. Oddly enough, hemlock, which is generally so common in the southeastern portion of the state, is nonexistent here. Sitka Spruce is the sole timber species of commercial value on the island, where it reaches the western limit of its range. The all-spruce forest remains one of the unique features of Afognak.

Afognak's spruce forest is the vanguard of a northwestward advance that began at the close of the last ice age. The spruce is moving into the grasslands at the slow rate of about one mile per century, or 50 feet per year. It is generally believed that the slow progress may be a function of the sterility of the soil in this region. It has taken centuries for sufficient plant nutrients to accumulate in the soil to support forest. At first, the young trees grow very slowly, but gradually grow faster as they build up their own nutrient reservoir from lichens, bird droppings, mycorrhizal fungi, and fixed nitrogen from rain and primary vegetation. Eventually, the trees begin to recycle their own nutrients as leaves fall, and the cycle of decay and growth accelerates.

Much of the resistance to the Perenosa timber sale is in response to the Forest Service's insistence on employing clearcutting in an area where timber regeneration is slow at best.

Joel Bennett

Several studies by the Forest Experiment Station on the island show that it takes a long time for trees to become established following logging, and that when they do, they grow very slowly. One area clearcut in 1960 shows virtually no regeneration. The only satisfactory regeneration exists in small openings where insects have killed the trees in the 1930's and where selective logging was practiced during the 1940's. The experiment station also reports that two-thirds of the seedlings grow on rotten wood and upturned roots, presumably because these more readily provide the necessary nutrients for growth than does the soil itself.

Conditions that elsewhere produce predictable regeneration cycles do not exist on Afognak. Mainland volcanic eruptions over the centuries, and most recently in 1912, have covered the

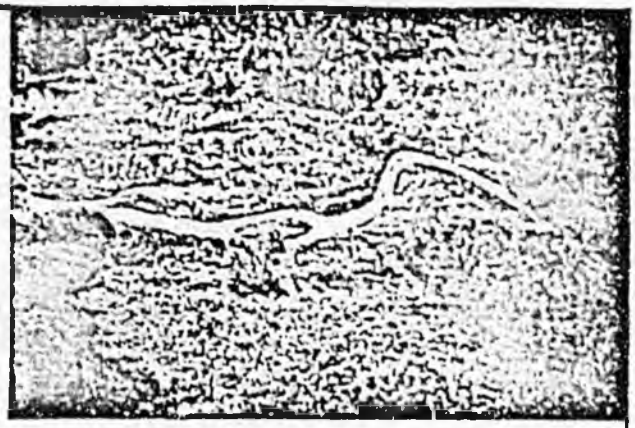
Joel Bennett

island with a basic volcanic-ash soil, which the Forest Service's impact statement acknowledges "has little erosion resistance once it is exposed to the elements." One of these "elements" is the average yearly precipitation of 60 inches at Kitoi Bay. The same lack of humus that makes the soil so inhospitable to forest regeneration also contributes to erosion in that there is no binder to hold the light ash particles together. As a result, they are dislodged easily and carried away by runoff. The more than 140 miles of road planned for the cutting area will substantially increase the risk of erosion. The existing contract requirement to "promptly" remedy pollution or stream sedimentation may well fail to avert permanent damage from initial construction activity.

Because of the slowness with which the forest regenerates and the dangers of severe erosion, researchers have repeatedly advised caution with regard to logging this area and have recommended some form of selective cutting, rather than clearcutting, in order to obtain sufficient regeneration. Nevertheless, the Forest Service stubbornly insists on clearcutting and hopes to solve the regeneration problem by dumping biocides on the fast-growing grasses and brush that will compete with spruce seedlings. Even though this practice is common in other places, there is no guarantee that it will work here.

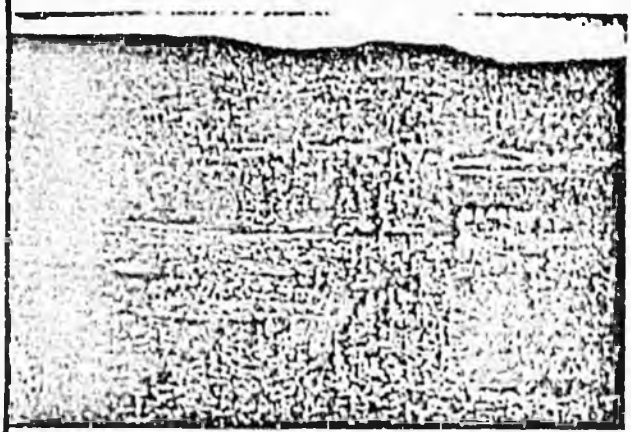
The effect the timber sale will have on the spectacular island wildlife—which includes the rare bald eagle and Alaskan brown bear, as well as the largest herd of elk in the state—is uncertain, largely because the Forest Service has made little effort to find out. But it is hard to imagine how the results could be other than disastrous. To differing degrees, the bears, the elk, and the eagles all depend on the forest habitat for maintaining healthy populations, if not for survival. A radical change in this habitat is likely to produce alarming changes in the local wildlife populations.

With habitual nonchalance, the government has once again relegated the magnificent brown bear to a subordinate position in the scheme of things: the Forest Service flatly admits that "the size of the population is unknown." Population-size projections based on spring and fall hunting statistics kept by the Alaska Department of Fish and Game from all of



Spruce is creeping into the arctic grassland on Afognak following retreat of Pleistocene ice. Their slow progress is limited by the supply of available nitrogen, phosphorus, and calcium, notably lacking in the recently created earth.

Joel Bennett



The spruce forests grow very slowly when first established, but achieve reasonable growth rates in the course of two to three hundred years.

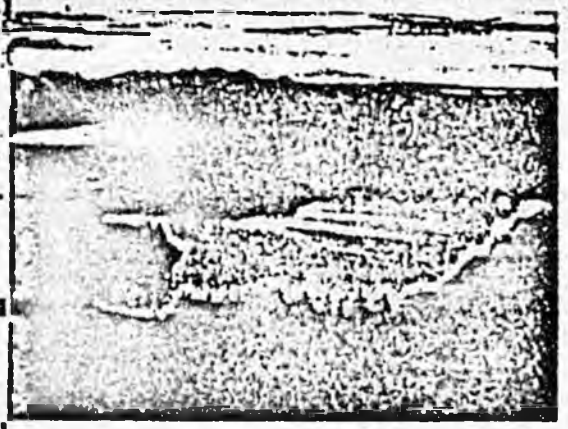
Gordon Robinson

Regeneration is sparse after logging, but does best in small openings created under a selection system of management. Seedlings tend to grow on decaying wood and around stumps, where the accumulated plant nutrients are offered by nature for recycling.

Gordon Robinson

Gordon Robinson

Regeneration is very slow and sparse in old clearcuts. If any logging at all is to be permitted in this strange and wonderful place, it should certainly be conducted under a highly conservative system of selection silviculture.



Joel Bennett

Afognak are superficial and bear little relation to actual population numbers. Extraordinarily dense vegetation prevents both accurate aerial observation or intense hunting, both traditional devices for measuring population.

The brown bear is faced with extinction outside of Alaska and is subjected to increasing pressures within the state. The Alaska Peninsula, a vast area 60 miles northwest of Afognak and noted for its plentiful bear population, was closed to bear hunting in the spring of 1974 because state management officials pointed to decreasing skull size as evidence of too much pressure there. Hunters now will turn to Afognak in greater numbers despite its limited access and adverse weather. More than ever, it is essential to have a comprehensive and accurate survey of bear distribution and habitat, including all sites subjected to high use during the spring and fall, and the specific areas used for dens, sleeping, and escape. According to state fish-and-game officials in Kodiak, no such survey has been made. Ironically, the habitat that now protects brown bear and makes them, according to the Forest Service, one of the "few relatively unhunted populations of brown bear in the world," will gradually disappear with the cutting, presumably allowing a more accurate assessment of bear numbers at that time. But then it may be too late.

Research on nesting sites and population numbers of the resident bald eagles has been almost as superficial as that on brown bear. The U.S. Bureau of Sport Fisheries and Wildlife, through an aerial survey, has located only 19 nest locations within the sale area of 120,000 acres. Officials from that agency concede that such an estimate is extremely low, and that an aerial count of this sort "in anything but a cottonwood forest is absolutely invalid." Similar habitat in southeastern Alaska would be expected to yield an average of one nest per mile of beach front (the sale area includes 60 miles of protected coastline). Pronouncements to the public such as "additional nests can be expected and will have to be located" offer little consolation. Once again, future generations may be forced to cope with disasters arising from present uncertainties.

Elk exist in Alaska only on Afognak and its two small associated islands—Shuyak and Raspberry. The elk were planted there in 1928 from Washington's Olympic Peninsula. Majestic and far ranging, several herds on Afognak frequent the sale area and depend on key regions within it for winter range. According to the Alaska Department of Fish and Game, the spruce-climax-forest community is extremely important to Afognak's elk. Throughout the

Joel Bennett

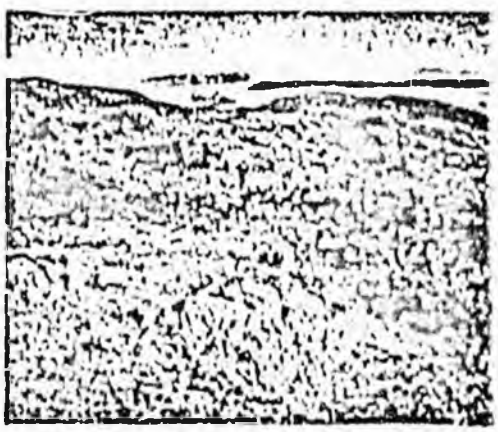
Joel Bennett

severe winter, elk stay within the forest canopy, venturing into the shrubland to feed only for short periods. As with other relatively uncontrolled populations, that of the elk rises and falls primarily as a result of weather conditions. Complete surveys of key winter ranges have not been made in such important areas as the west side of Waterfall Bay and from Saposa Bay south and west of Cape Kastromitinof. Again, the final impact statement notes that disturbance of the elk's winter range is considered to be of "particular importance." It would appear impossible to avoid such critical areas of winter range if they have not been completely identified.

With regard to disturbing wildlife, the Forest Service's Environmental Impact Statement does not refer to the 1972 Leopold-Barrett report on the implications for wildlife of the 1968 Juneau-unit timber sale in the Tongass National Forest. Much in that lengthy report is relevant to Afognak because it refers to a similar habitat and wildlife population. Specific concerns about the long-term effects of clear-cutting on wildlife, such as a relative shaping and sizing of clearcuts, vegetation changes occurring after secondary succession, and deer foraging patterns, are among those discussed in the report that one might assume would also be included in the Forest Service's own statement.

Alternatives exist for public use of Afognak; immediate and long-term commitment to timber harvest is reckless in view of the glaring omissions to date in both research and planning. Bilateral cancellation of the contract is an unlikely prospect at this point, but unilateral cancellation or further substantial contract modification is essential to adequately protect the public interest. Typically, the Forest Service has moved ahead, at odds with the public and armed with incomplete data. The potential outcome at best is unknown, at worst disastrous. The public deserves a comprehensive assessment of the effects of large-scale cutting on Afognak. Only after this is completed will both the public and the Forest Service be able to evaluate recreational and wildlife potential in light of present and future needs.

Joel Bennett, a conservationist and professional photographer working out of Juneau, recently spent much time on Afognak Island in an attempt to capture on film the lives of the island animals.



Joel Bennett

STATE OF ALASKA

JAY S. HAMMOND, Governor

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

SUBPORT BUILDING
JUNEAU 99801

March 12, 1975

The Honorable Nels A. Anderson, Jr.
Chairman, House Resources Committee
Alaska State Legislature
Pouch V
State Capitol
Juneau, Alaska 99801

Dear Representative Anderson:

As Dr. Le Resche testified to your committee this morning, the Department of Fish and Game supports HJR 13, relating to the Perenosa Timber Sale on Afognak Island.

This Department feels that the unresolved problems of reforestation, inadequate knowledge of erosional characteristics of the volcanic soils, potential growth of total cut due to conflicts with the Native land selections, and potential degradation of commercial crab and salmon spawning and rearing areas argue against the augmentation of this sale.

The Forest Service has demonstrated commendable cooperation in designing the Perenosa cuts to consider deer, elk, and bear habitat, and to at least reduce the potential damages to streams. However, in view of significant recurring conflicts between the U.S. Forest Service forestry practices in Southeast Alaska and provisions of Alaska Statutes 16.05 and 16.10, we feel that important fishery habitat on Afognak Island can best be protected if the present sale is cancelled.

Sincerely,

James W. Brooks

James W. Brooks
Commissioner

CHAIRMAN:
NELS A. ANDERSON, JR.

STAFF ASSISTANT:
GUY VANDOREN

POUCH V
JUNEAU, ALASKA 99811

VICE CHAIRMAN:
TED SMITH

SECRETARY:
BETH O'DONNELL

PHONE: 465-3715
465-3781

House Resource Committee

April 2, 1975

To: Mambers of the House Resources Committee

From: Guy A. Van Doren
Staff Assistant, House Resources Committee

Subject: HJR 13.. Relating to the Paranosa Timber Sale on Afognak Island.

Due to the great interest shown in HJR 13 and the amount of important material that has been submitted by both the Forest Service and the Department of Fish and Game, as well as interested parties, I am respectfully requesting that you review the enclosed materials which will be discussed at tomorrows meeting.

There will be representatives from the U.S. Forest Serv ice, Department of Fish and Game, private citizens, and a member of the Attorney Generals office, all of which will be able to answer your questions.

Guy

STATE OF ALASKA
JAY S. HAMMOND, Governor
DEPARTMENT OF FISH AND GAME
OFFICE OF THE COMMISSIONER
SUBPORT BUILDING
JUNEAU 99801

April 2, 1975

The Honorable Nels A. Anderson
Chairman
House Resources Committee
Alaska State Legislature
Pouch V
Juneau, Alaska 99801

Dear Mr. Anderson:

In answer to your request for further information on the fisheries of the Peranosa timber sale area, attached is a summary of our concerns, expanding upon information previously presented by Robert LeResche, Chief of our Habitat Protection Section.

Sincerely,

James W. Brooks
Commissioner

Sill
HJR 13

File

R. E. ROBERTSON (1885-1961)
F. O. EASTAUGH
J. B. BRADLEY
W. G. RUDDY
L. B. JACOBSON
R. B. BAKER (ANCHORAGE)
M. T. THOMAS
L. J. BARKER (ANCHORAGE)
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PLEASE REPLY TO
☑ JUNEAU OFFICE
☐ ANCHORAGE OFFICE

April 16, 1975

The Honorable Nels A. Anderson, Jr.
Alaska State House of Representatives
Pouch "V" State Capitol Building
Juneau, Alaska 99811

Dear Mr. Anderson:

When I testified before the House Resource Committee on April 4, 1975, I stated that I had met with State representatives several times regarding forest practices and the conflict between Fish and Game on th one hand and industry and the Forest Service on the other. I stated that I would send you a list of the dates and times of the said meetings. The dates and times are listed on the attached sheet. If you have any questions regarding this information, please contact me.

Yours very truly,

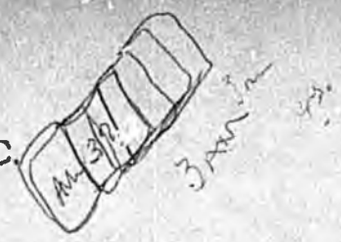
Jim Clark

James F. Clark

JFC/ks

TELEGRAM

RCA ALASKA COMMUNICATIONS, INC.
PHONE: 586-6440
JUNEAU, ALASKA 99801



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FMS REP NELS ANDERSON

JUN 209

MY NAME IS TOM MEACHAM. I AM THE ATTORNY REPRESENTING THE KODIAK-ALUETIAN CHAPTER, ALASKA CONSERVATION SOCIETY IN THIER PROTEST OF THE PERENOSA TIMBER SALE ON AFOGNAK ISLAND. OUR ADMINISTRATIVE APPEALS HAVE FAILED, AND I HAVE BEEN AUTHORIZED BY MY CLIENTS TO FILE SUIT IN FEDERAL COURT REGARDING THE FORREST SERVICE PLANNERS FOR AFOGNAK. YOUR SUPPORT OF HJR 13 WILL DEMONSTRATE THE STRONG COMMITTMENT WHICH THE STATE AND ITS LEADERS HAVE IN THE USE AND PROTECTION OF ALASKAS RESOURCES FOR 'ONG-TERM BENEFITS AND NOT FOR SHORT-RUN SINGLE USES.

WE HAVE PROTESTED THE PERENOSA SALE ON NUMEROUS GROUNDS, SOME OF WHICH MAY BE FAMILIAR TO THE COMMITTEE. BASICLY WE BELIEVE THAT THE SALE IS EXTREMELY UNWISE BOTH ECONOMICLY AND ENVIROMENTALLY. THE TIMBER IS BEING SOLD AT A NET LOSS TO THE UNITED STATES AND THE COSTS OF LAND RESTORATION, SOIL STABILIZATPON, MANAGEMENT OF INCREASED ACCESS, AND THE RAISING AND HAND-PLANTING OF SEEDLING IN CLEAR CUT AREAS HAVE NOT BEEN RECOGNIZED OR ANALYZED BY THE FORREST SERVICE. ANY SHORT-RUN MONITARY BENEFITS RECEIVED BY THE STATE WILL BE FAR OUTWEIGHTED BY THE LONG-TERM COSTS BROUGHT ON BY THE SALE.

WE BELEIVE THE SALE TO BE COMPLETELY UNJUSTIFIED FROM ANY ENVIROMENTAL STANDPOINT. AFOGNAK'S SOILS ARE VOLCANIC, AND ARE EXTREMELY ERROSION-PRONE WHEN THE GROUND COVER IS REMOVED OR DESTROYED. THE SPRUCE ON AFOGNAK ARE FIRST-GROWTH TREES, AND ARE ADVANCING WESTWARD AT THE SLOW RATE OF ONE MILE EVERY

HUNDRED YEARS. THE FORREST SERVICE HAS IGNORED THE ADVISE OF ITS OWN EXPERS IN THEIR DICISSION TO LOG THE ISLAND, AND HAS DONE VIRTUALLY NO SOIL STUDIES. WITHOUT THIS INFORMATION THE OOGGING OF THE ISLAND CAN BECOME AN INVIROMENTAL DISASTER.

WILDLIFE HABITAT IS ONE OF THE MOST VALUED ASPECTS OF AFOGNAK, AND THE ALASKA DEPARTMENT OF FISH AND GAME HAS AN OBLIGATION TO PRESERVE THIS HABITAT FOR THE FUTURE BENEFIT OX ALL ALASKANS. THE FORREST SERVICE HAS MADE NO SIGNIFICANT STUDIES OF BEAR ON AFOGNAK, AND HAS NOT ANA'YZED THE TRUE EFFECT OF THE TIMBER SALE ON ELK, WHICH IT ACKNOWLEDGES ARE DECLINING IN NUMBER. WHAT WILL BE THE EFFECTS OF HERBICIDE USE LOGGING ROADS, INTRUSION IN TO WINTER RANGE OR HEAVIER SNOW COVER ON BROWSE IN CLEAR CUT AREA. THE FORREST SERVICE CAN NOT ANSWER THESE QUESTIONS, BECAUSE IT HAS NO FACTS AND HAS MADE REAL EFFERT TO LEARN THE FACTS.

FINALLY, THE SEA LIFE AROUND AFOGNAK IS ABUNDANT AND IS A SOURCE OF CONTINUEING ECONOMIC BENEFIT TO THE RESIDENTS OF KODIAK AND AFOGNAK. WILL THE CRAB AND SALMON SURVIVE YEARS OF HEAVY STREAM SILTATION, OF HERBICIDE AND INSECTICIDE USE, OF LOG TRAFFIC, BARK, DEBRIS, AND MILLING OPERATIONS. THE FORREST SERVICE AGAIN HAS NO ANSWERS, BECAUSE IT HAS FAILED TO ASK THE QUESTIONS WHICH ARE OBVIOUS IN THIS SITUATION.

THE FORREST SERVICE BELIEVES THAT THE PERENOSA CONTRACT MUST BE HONORED ABOVE ALL OTHER CONCIDERATIONS, EITHER ECONOMIC OR IVIROMENTAL. YET IT FAILED TO TAKE ACTION TO TERMINATE THE CONTRACT WHEN THE CONTRACTOR FAILED TO PERFORM FOR FIVE YEARS. WHOSE INTEREST IS THE FORREST SERVICE OBLIGATED TO PROTECT. IF IT DOES NOT WEIGH AND PROTECT THE PUBLIC INTEREST, THEN THE STATE OF ALASKA MUST STEP FORWARD TO PROTECT ITS NATURAL HERITAGE AND ITS FUTURE. THE KODIAK-ALUETIAN CHAPTER , ALASKA CONSERVATION SOCIETY SINCERELY URGES THE HJR13 BE ADOPTED IN ITS ENTIRETY.

THOMAS E MEACHAM

File timber sale HR 13

Koniag, Inc.

REGIONAL NATIVE CORPORATION

Cherrier-King & Cherrier Bldg.
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April 17, 1975

Nels A. Anderson, Jr.
Chairman, House Resource Committee
Pouch V
Juneau, Alaska 99811

Dear Mr. Anderson:

This is in reply to your correspondence of April 3, 1975, concerning Perenosa timber sale on Afognak Island. While I would like very much to testify or send in written testimony to the committee, I am at the point in time waiting on the villages who are most affected by the Perenosa timber sale. They in turn are waiting on the Forest Service and BLM, to see what problems may be resolved before we come to the committee. I would respectfully request that you wait as long as possible for input from Afognak, Port Lions and Ouzinkie. I feel that they are the most effected villages in our area, and they will have input as soon as possible. I had hoped that they would have input much sooner then the state but apparently the Forest Service and the BLM have fallen down in their correspondence to the villages. Hopefully we'll have this result in the near future and will contact you as soon as we receive word from these two departments.

Thank you for your attention.

Sincerely,

KONIAG, INC.

Jack Wick

Jack Wick
President

JW:com

Updated 12/17/74

QUESTIONS AND ANSWERS CONCERNING THE PERENOSA TIMBER SALE ON AFOGNAK ISLAND

The Forest Service is committed to Multiple use principles in managing Alaskan Forest resources. This requires that we be responsive to both local and national concerns. If conflicts do occur then we want the public to help us resolve these differences through public meetings, review of our environmental statements, or other means of public involvement. The Perenosa Sale bridges the development and environmental eras thus has been somewhat controversial.

We have answered here, as objectively as possible, the most frequently asked questions concerning the Perenosa Timber Sale on Afognak Island. The Sale has undergone several changes thus the need to clarify the situation.

1. WHY WAS THE PERENOSA SALE MADE?

Timber, one of our few renewable natural resources, is like a crop. It matures, dies, and renews itself. The Perenosa Sale provides a means where a portion of Afognak's mature timber can be harvested. In 1967 Governor Hickel's timber task force recommended that some of Afognak Island's timber resources be harvested.

2. WHY WAS THE SALE NOT STARTED OPERATION?

Shortly after the timber was sold (7/29/68), both the foreign and domestic lumber markets slumped. The timber sale purchaser, an American firm, found that it would be uneconomic to begin operations. The markets have since improved and demand has strengthened.

3. WHY WAS THE SALE REVISED?

Environmental and esthetic concerns have changed since the sale was first prepared. These changes have been reflected in the revision which gives additional consideration for esthetics, wildlife and fisheries.

4. WHAT ARE THE CONDITIONS OF THE REVISION?

		Existing	Revised
a.	total volume to be harvested	525 MMBF*	332 MMBF*
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h.	percent to be harvested of total commercial timber on Afognak	10 %	6 %

* MMBF = Million Board Feet

5. HOW WILL LOGGING AFFECT THE ELK HERD ON AFOGNAK?

Elsewhere, logging has benefited elk by providing more food, assuming other habitat requirements are met. Key elk wintering areas have been identified with the help of Alaska Dept. of Fish and Game and are reserved from logging.

6. HOW WILL LOGGING AFFECT SALMON STREAMS?

Section C6.5 (Stream Course protection) of the Perenosa contract will be rigidly enforced. This section insures that designated streams will be protected from debris, poor road building, and improper equipment use. In key areas, the cutting units have been located further from stream banks thus giving additional protection to the fisheries.

How far

What is elk habitat ← Studies

110

Roads built for logging purposes also provide access that makes possible the improvements of fish habitat. Examples: maintenance or improvement of spawning and rearing areas; installation of fish ladders; stocking lakes and streams; removal of barriers.

7. HOW WILL LOGGING AFFECT THE BROWN BEAR POPULATION ON AFOGNAK?

Logging in bear areas disturbs bear habits to some extent but whether this will have a long-term adverse effect on the Afognak bear population is not fully known. Bear track counts on logged areas in southeast Alaska between 1960-66 before, during, and after logging indicated no major shift in bear distribution. Hood Bay, an area on south Admiralty Island, chosen by the Alaska Department of Fish and Game as a brown bear study locale because of the high population of brown bears, was logged in 1913, 1914, 1926, and 1947. In fact, some timber has been removed from every mile of the Hood Bay shoreline within the last 90 years and Hood Bay is still prime bear habitat.

Safeguards developed in cooperation with Alaska Department of Fish and Game are intended to minimize any possible effects of logging on bears. These include no logging around major bear concentration areas along streams, locating camps away from heavy bear use areas; and leaving timber fringes around grass flats known to be good bear habitat.

The following statement is quoted from the publication The Brown - Grizzly Bear In Alaska - It's Ecology and Management, Alaska Department of Fish and Game.

"Logging activity may actually benefit the brown bear population. Timber cuts are being made from over-aged climax spruce, hemlock and cedar stands, forest types notoriously sterile as habitat for brown-grizzly bears. Openings created by cuts would seemingly initiate successional patterns, certain stages of which would create conditions more favorable to bears than the present climax state. The early pioneer stages with abundant grasses and other herbaceous growth would appear especially attractive to bears. These requisite foods are scarcely represented in climax stands. A rotational cut would thus result in mixed-aged forest stands some of which would always be of prime importance to bears."

The statement was not made of Afognak but speaks to the importance of successional variations to the food chain of bears.

8. HAS AN ENVIRONMENTAL STATEMENT BEEN PREPARED?

An Environmental Impact Statement was prepared and filed with the Council of Environmental Quality on April 15, 1974.

9. WERE PUBLIC MEETINGS HELD IN KODIAK TO REVIEW THE CONTENT OF THE ENVIRONMENTAL STATEMENT?

Yes. In addition, public meetings were held concerning the original Sale and the revision.

10. WILL REFORESTATION OF THE LOGGED AREA BE A PROBLEM?

The number of trees now growing on formerly logged areas on Afognak has been found adequate, but size and distribution is less than optimum. Our research branch has reported slow growth (as compared to southeast Alaska) of young trees due to grass and brush competition in a 25-year old logged area in Kazakof Bay. (Reference Research Note PNW #176, May 1972.) Afognak Island lies at the margin of the westward extension of Sitka spruce, and in this zone reforestation by natural means cannot be guaranteed. If for any reason it is not adequate, measures will be taken to help insure that cutover areas will be satisfactorily reforested in a reasonable period. Some of these measures include one or more of the following:

a. plant Sitka spruce seedlings.

b. mechanically remove competing brush and grass around planted trees.

c. selectively apply registered herbicides to remove competing vegetation where necessary to insure adequate growth of seedlings.

d. apply fertilizers to stimulate tree growth.

11. HOW WILL THE ALASKA NATIVE CLAIMS SETTLEMENT ACT AFFECT THE SALE?

The sale predates the Act but a portion of the sale lies within areas available for native selections. Some village corporations have filed applications for land that contains about 1/3 of the timber in the sale. More land selections may be made.

The Act provides:

"Sec. 15. Notwithstanding the provisions of existing National Forest timber sale contracts that are directly affected by conveyances authorized by this Act, the Secretary of Agriculture is authorized to modify any such contract, with the consent of the purchaser, by substituting, to the extent practicable, timber on other National Forest lands approximately equal in volume, species, grade, and accessibility for timber standing on any land affected by such conveyances, and, on request of the appropriate Village Corporation the Secretary of Agriculture is directed to make such substitution to the extent it is permitted by the timber sale contract without the consent of the purchaser."

12. WHY HAS THE PAYMENT FOR TIMBER CUT (STUMPAGE) BEEN DECREASED?

As mentioned, environmental requirements have become more stringent since the sale was first sold and this has increased the cost of logging. This will mean a reduction in stumpage and lower net return to the Federal treasury.

13. WILL THE LOGGING CAMP IN KAZAKOF BAY INCREASE ANY BENEFIT OR COST FOR KODIAK?

There will be a demand on the town of Kodiak for goods, services, and transporation to supply the expected 30 to 60 man logging camp. This will increase employment in the area to supply these needs and thereby provide an additional tax revenue base. The logging camp and equipment is taxable. A quarter of all stumpage receipts is paid to the boroughs through the State of Alaska for the timber cut on National Forest land. This money contributes to the support of schools and roads.

14. IF A MILL IS LOCATED ON KODIAK, WHERE WILL THE TIMBER COME FROM TO SUSTAIN IT AFTER THE PERENOSA SALE IS COMPLETED?

The volume to sustain continuous operation of the mill will come principally from the timber resources on Afognak Island. Actually only a very small percentage of the commercial timber of Afognak is in the Perenosa Sale. It's likely that timber from other islands of the Kodiak group may also be milled there.

15. WILL THIS SALE AFFECT THE U.S. BALANCE OF PAYMENT DEFICIT?

Yes. America has imported more products that it has exported in the past decade to Japan. Timber not in demand domestically - like the Sitka spruce from Alaska - is one commodity the U.S. can export to help regain some of the dollars spent for importing foreign goods.

Afognak - Antlerless Moose

House Resource Committee Guest List April 3, 1975

Guests:

Name	Representing	Phone
Clay Beal	U.S. Forest Serv	272-4485
Tom Sheehy	"	"
Jim Brooks	ADF+G	586-3203
Jeff Haynes	Dept of Law	465-3600
Alice Cook	U.S. Forest Service	586-7484
Thelma Buchholdt	self	

Dept.

Board - feels that highest priority on Subsistence hunting.

Motion that CS S.B ~~House~~ bill 230am Move out of committee with a "do pass recommendation.

Rep Swanson requested that the bill be postponed until April 8th 8:00 a.m.

MR. Clay Beal - Sup. Chugiak Nat. forest.

Report on soil - Some of the best soil in Alaska on Afognek 160 acres clear cut area.

Jeff Haynes - Rep Dept of Fish + Game

Paranosa river - Streams are planned to be rebuilt

OVER 1 million dollers have been spent on afognak -

agreed to delete the three selected areas.

→ 97.203 Native Land Claims act. B.I.A.—

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

U.S. FOREST SERVICE COMMENTS ON THE JOINT RESOLUTION (SENATE NO. 12/HOUSE NO. 13) RELATING TO THE PERENOSA TIMBER SALE ON AFOGNAK ISLAND INTRODUCED FEBRUARY 20, 1975.

Introduction

The Perenosa Timber Sale was prepared to further establish Afognak Island as an integral portion of the timber management plan for the Chugach National Forest. A task force, appointed by former Alaska Governor Walter J. Hickel and consisting of State and Federal land managers and timber industry leaders, also studied the potential for new timber industry development in Alaska. The timber task force considered the Kodiak-Afognak-Shuyak Island group as a potential economic opportunity for the development of a new timber based industry in Alaska. The Forest Service and the task force recognized that:

a. No timber industry existed in this island group.

b. An estimated sustained yield of 40-50 MMBF 1/ per year was available from the Kodiak Island-Afognak Island-Shuyak Island group.

c. A ready market existed for Alaskan timber.

The intent of the Forest Service and the State of Alaska in selling the Perenosa Timber Sale and the adjacent State timber on Shuyak Island

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1/ MMBF = million board feet

was to establish a new permanent industry in the Kodiak Island group to bring under management an undeveloped timber resource and diversify the economy of that area.

Preparation of the Perenosa Timber Sale began in 1966, and was completed in 1967, proposing a sale of 525 MMBF under a 15-year contract. The gross sale area included approximately 120,000 acres with just 21,000 acres actually scheduled for harvest in 73 clearcut units. The anticipated annual harvest on the sale was to be 35 MMBF. The sale was carried out by oral auction on June 4, 1968, and awarded in July 1968 for a bid price of $27.05/MBF [1/] to Columbia Lumber Company of Alaska.

The purchaser took no action on the sale during 1968. The export market began to drop during 1968-1969. On July 15, 1969, Columbia Lumber Company entered into a third-party agreement with the Afognak Timber Company who then became the company to operate under the sale contract. Recently it has changed hands again and is now held by the Kodiak Lumber Mills.

The Forest Service took advantage of these changes in purchasers, realizing that additional measures could be taken in the sale to protect or enhance other forest resources, and developed a Draft Environmental Impact Statement which considered alternatives to the original sale. A Final Environmental Impact Statement was filed with the Council on Environmental Quality April 5, 1974.

The decision resulting from the Environmental Statement process was to proceed with a greatly modified timber sale contract. Major changes included a timber volume reduction of about 40 percent, an average cutting

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1/ MBF = thousand board feet

unit size reduction to 100 acres, and added resource coordination requirements. A table illustrating the changes follows:

Table 1

Comparison of Original Timber Sale with the Revised Sale

Item	Original Sale	Revised Sale
1. Total sale volume, MBF 1/	525,000	332,329
2. Total sale area (acres)	120,000	120,000
3. Total area logged (clearcut areas)	21,000	12,074
4. Total number of clearcut units	73	121
5. Average unit size (acres)	288	100
6. Maximum unit size (acres)	905	228
7. Smallest unit size (acres)	51	34
8. Roads (miles)	114.0	140.3
9. Volume logged to water for transport via log rafts in water, MMBF 2/	172	0
10. Logging period, years	15	10
11. Volume logged per year, MMBF 2/	35.0	33.2
12. Acres logged per year	1,400	1,200

1/ MBF = thousand board feet.

2/ MMBF = million board feet.

Comments

The following are some specific comments on wording of the resolution:

WHEREAS the Perenosa timber sale on Afognak Island is presently being pursued in the face of widespread opposition from the public, the Kodiak Borough, local legislators, and Koniag, Inc., the local Native corporation.

COMMENT: Responses in the Final Environmental Impact Statement show support from several State agencies. Other individuals and groups in Kodiak were in favor of economic diversity; however, due to several reasons, they prefer to remain non-vocal in public. Recent correspondence from the Natives indicate they are not in favor of the resolution.

WHEREAS questions raised in administrative appeals, including the uncertainty of reforestation, the effect of herbicides, insecticides, and road building on salmon spawning streams, and the elimination of critical elk and bear habitat, have never been satisfactorily answered by the Forest Service.

COMMENT: Multiple use means wise use of a blend of resources. Recreation is one of the main activities on the Chugach National Forest of which Afognak is a part. The wildlife, the fish, the scenery, water, and soils are also valuable resources. For example, we believe increased use and management of the wildlife and fish resources will result from the sale. To date, surveys to determine improvement potential of wildlife and fish habitat have been limited primarily to the coastal area on salmon streams capable of producing commercial salmon and on lakes having a potential for sport fisheries. More intensive management of the wildlife and fish resources will take place as access becomes easier and more use is made of them.

The combination of forage and cover which exists around the edge of clearcut blocks is known as "edge effect" and is beneficial habitat for deer and elk.

More of the fishing and hunting potential of the interior of the island will be realized if the sale is completed and the planned permanent roads are built.

WHEREAS repeated requests for a stay of activities pending appeal were turned down by the Forest Service.

COMMENT: An appeal to the Secretary of Agriculture was considered by him, and he upheld the decision to proceed with the modified sale. The Forest Service is in agreement with the Secretary.

WHEREAS the wildlife, commercial and sport fish, and recreational resources within the sale area are extremely valuable to the citizens of the state and will be particularly important in satisfying the growing recreational demands of Anchorage and the entire southcentral area.

COMMENT: We agree. We believe completion of the proposed sale would result in an increase in the recreation opportunity for developed recreation sites on a road system.

More of the fishing and hunting potential of the interior of the island will be realized if the sale is completed and the planned permanent roads are built.

WHEREAS since the sale was made, land selections by Native corporations on Afognak seriously limit the amount of suitable land available for general public use and further question the advisability of committing 120,000 acres to single purpose use at this time.

COMMENT: A portion of the 12,000 acres designated for harvesting has been or is expected to be selected by Native corporations. This was provided for in the Alaska Native Claims Settlement Act, and timber sale alternatives prescribed by the Act can be chosen which will meet the needs of the public.

Only 12,000 acres, not 120,000 acres, is committed to timber activities. Even on these acres, single use is not the apporpriate term. Elk,

deer, bear, and many other forms of wildlife use cutover areas as do hunters, picnickers, and others. We have also observed that roads improve access for such big game animals as deer and bear, as well as for humans.

WHEREAS the Forest Service's own Forestry Sciences Laboratory, which cautioned against large-scale logging on Afognak until more is known about the island's soil instability and special reforestation problems, was largely ignored.

COMMENT: Studies have shown that most of the areas logged in the past on Afognak Island have been adequately re-stocked with natural tree regeneration (over 90 percent stocked). However, there may be some tree regeneration difficulties because of competing grass and shrubs. The Forestry Sciences Laboratory is in agreement that what is now planned is responsive to the silvicultural needs of the sale area. The regeneration plans and their coordination with the other resources are discussed in the Environmental Impact Statement. The Forestry Sciences Laboratory research publication (PNW-176) recommended we ". . . proceed cautiously with large-scale timber harvesting. . . ." The sale as modified is a much more cautious approach and size of cutting units are scaled down.

WHEREAS large-scale cutting of Afognak timber, bound for Japan, ignores the larger public need for a balanced utilization of Alaska resources and provides little more than a minimal dollar return for Alaskans.

COMMENT: The capital investment necessary to start a new industry and the payroll for 120 or more employees are important to the State. Locally, an annual direct payroll of about $2,000,000 is quite significant. In addition, many economists believe that the Nation's ability to maintain a healthy balance of payments is critical. Export of the manufactured products from this sale can help this balance. Trees,

unlike oil and minerals, are renewable, thus harvesting now will actually insure more wood products for the future.

WHEREAS this return, only 25 percent of the net sale price, is only a token amount considering the probability of having to hand plant seedlings, the loss of recreational resources to the state, the added services required, and the degradation of critical commercial crab and salmon spawning and rearing areas.

COMMENT: As mentioned in our comment on the fourth WHEREAS, recreational resources will be increased. The only resource loss is wilderness. Added community services are looked upon as a benefit by some. We believe the revised sale requirements adequately protect crab and salmon spawning and rearing areas.

Any action recommended in a resolution should be realistic. A bilateral cancellation of the contract requires agreement of the purchaser as well as the Government. It is doubtful he would agree unless indemnified. There are no changed circumstances of consequence since June 13, 1974, when the purchaser and the Forest Service signed the modified contract. The contract has already been modified to better protect the environment and other resources. This included an elaborate restructuring of the size and location of cutting areas. Contract clauses are designed to more adequately protect waters from pollution.

To summarize, the Forest Service, obligated by a valid timber sale contract signed in 1968 and which was fostered by the State, voluntarily undertook a bilateral modification with full involvement and participation by the public and the purchaser in 1973. The decision to modify the contract and to proceed with the sale was announced on May 16, 1974. Correction of every personal concern for management was not possible, but most all concerns expressed during this effort were addressed in

this decision-making process. We believe that the National Environmental Policy Act has been complied with, resulting in a contract much more in tune with the public thinking. We were fortunate in having a sale purchaser who was cooperative and willing to give a great deal in the public interest. It is our recommendation that the Legislature stand by the decision to proceed with the sale and not pass the resolution as proposed.

C. A. Yates

C. A. YATES
Regional Forester

Supplemental Statement to accompany U. S. Forest Service Comments on Joint Resolutions (Senate No. 12/House No. 13), Relating to the Perenosa Timber Sale on Afognak Island, which was presented to House Resource Committee on March 11, 1975.

LANDSCAPE, SOILS, AND EROSION HAZARD

In this discussion we are mainly concerned with the N.E. portion of Afognak Island. It is this area which is proposed for timber harvest under the Perenosa Timber Sale Contract.

Landscape

Except for one mountain and several small, somewhat lower hills, all of the sale area is below 1,200 foot elevation. For the most part it is rolling terrain (slopes $<20\%$) with many lakes, ponds, and muskegs.

The geologic history of the area is quite complex. Bedrock consists mainly of metamorphic rock types. During the last ice age most of the sale area, except possibly for the highest mountain area, was covered by ice. This glaciation resulted in coating the underlying bedrock with glacial till.

During and since the melting of the ice, volcanic ash has been falling on Afognak Island. These ash falls culminated with the last major fall in 1912 which originated from the Mt. Katmai Area.

Supplemental Statement presented before House Resources Committee, Juneau, Alaska, by Tom Sheehy, Soil Scientist, Chugach National Forest, April 3, 1975.

Although many people tend to think of the 1912 ash fall as the volcanic Ash on Afognak and Kodiak, in reality it is only one of many falls which have occurred. Field evidence indicates there have been at least 16 significant (significant meaning visible) ash falls since this last great ice age. Except for the 1912 fall, layers of ash range in thickness from just visible to about 1 inch. The 1912 ash fall ranges from 4-6" thick. Textures range from silt to coarse sand. Total thickness of all the ash layers is approximately 14 inches.

Soils

The soils of Afognak can be broadly divided into two groups - mineral and organic. Mineral soils in turn can be subdivided based on type of material below the soil profile.

Group I - Mineral Soils

Subgroup I

These are the major productive soils of the Island. Generally they are about 20" thick and overlay glacial till or windblown silt. A brief description shows:

Surface organic - 2"

1912 Ash layer - 4"

Buried organic - 2"

Silt loam weathered mineral material - 12" over unweathered glacial materials.

It is interesting to note that in most soils the only ash layer visible is the 1912 ash fall.

Subgroup II

These soils are similar to Group I but are thinner and overlie bedrock at a depth of 20" or less.

Subgroup III

Small areas of uplifted beaches are found along the coast. Soils consist of:

Surface organic - 2"

1912 Ash - 4"

Over coarse, angular beach fragments

Group II - Organic Soils

Lowlying areas throughout the Island have a covering of organic sedge and sphagnum peats ranging in depth from a few inches to 8 feet.

Summary

The landscape of the area of the Perenosa Timber Sale is in the main gently rolling terrain with many muskegs, lakes, and gentle ridges.

Only the upper portion of the soils have been derived from volcanic ash. Total ash thickness is generally less than 14 inches. The remaining portion of the soil is either glacial till, windblown silt or beach cobbles. Only the 1912 ash layer is distinctively visible in the mineral soil profiles, other ash layers having been weathered and incorporated into the lower parts of the soil.

Erosion Hazard

"Volcanic ash is highly erodible" is a statement often heard. One must ask the question-under what circumstances is it and is it not. Factors to consider in this determination are:

1. Slope
2. Particle size of the ash.
3. Amount of weathering or breakdown of ash into smaller components.
4. Exposure of the volcanic ash to the elements, especially water.

Consider these factors in terms of the Perenosa Timber Sale area:

1. Slopes within the proposed sale area are generally gentle. This means minimal landslides and slump hazards. Road construction will require fewer cuts and most construction will be the overlay type (overlay road - a method of construction whereby brush, trees, etc., are removed from the road area and fill material such as rock or gravel is placed over the soil. This material then serves as a road surface). This type of construction on gentle slopes leaves the soil essentially undisturbed and protects it.

2. Particle size of the ash - Particle size defines the size of the grains or individual constituants which make up the material. In other words, the finer the material the more easily it is eroded, particularly by moving water and wind. It takes a large volume of fast flowing water to move a boulder, less to move sand and lest to move clay material.

The 1912 ash fall is the uppermost ash fall on Afognak and the one most likely to be disturbed during high-lead logging and road building operations. It is also composed of the largest particle sizes, mainly silt and sand, and is not highly erosive on gentle slopes and under rainfall conditions found in the proposed timber sale area. If water is concentrated in the form of rivulets, however, erosion can occur. Proper culvert installation will prevent this.

3. Amount of weathering - originally the material may have been quite coarse, perhaps sand in size, but because of the break down by chemical and physical weathering the particles become smaller and smaller with time. There has been some breakdown of 1912 ash particles but the material is still very coarse. The old buried ash falls are highly weathered and composed of fine particle sizes which are highly erosive. Fortunately these ash materials are quite thin (generally less than 12 inches) and are protected by a buried organic layer and a surface organic layer as well as the coarse 1912 ash fall.

4. Exposure of volcanic materials to the elements - if the ash material has a protective vegetative cover which prevents moving surface water from contacting it directly, it's stability is maintained. If the protective cover is removed, erosion can occur because water comes directly in contact with the ash. The more weathering, the smaller the particle size and the greater potential for erosion.

Summary - Erodibility and Protection of Afognak Soils

Let us now consider the soils of Afognak in the light of the above discussion to determine their erodibility under the proposed management conditions, namely high-lead logging with overlay access roads.

First, except for the 1912 ash fall, all the ash falls on Afognak have been weathered and incorporated into the soil profile in mineral soils. This weathered ash has small particle size, is highly weathered and very

erosive. At the same time it is protected by the buried organic layer, which prevents erosion.

Second, above the buried organic layer is the 1912 ash fall which has undergone some weathering but still has fairly large particle sizes. This in turn is protected by the new organic layer developed since 1912.

The key to preventing soil erosion and in turn sediment production is to minimize the soil disturbance, particularly the buried, highly erodible ashey soil material.

The best way to do this is by limiting disturbance of the soil. This is done by using high-lead logging methods with overlay access roads.

These logging methods will be used on the Perenosa Timber Sale.

Professional Opinion

It is my professional opinion as a Soil Scientist that by using high-lead logging methods, overlay roads and professional timber sale administration that soil erosion and loss of soil productivity will be minimal on the Perenosa Timber Sale.

Thomas J. Sheehy

TOM SHEEHY

Soil Scientist

Updated 12/17/74

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Logging in bear areas disturbs bear habits to some extent but whether this will have a long-term adverse effect on the Afognak bear population is not fully known. Bear track counts on logged areas in southeast Alaska between 1960-66 before, during, and after logging indicated no major shift in bear distribution. Hood Bay, an area on south Admiralty Island, chosen by the Alaska Department of Fish and Game as a brown bear study locale because of the high population of brown bears, was logged in 1913, 1914, 1926, and 1947. In fact, some timber has been removed from every mile of the Hood Bay shoreline within the last 90 years and Hood Bay is still prime bear habitat.

Safeguards developed in cooperation with Alaska Department of Fish and Game are intended to minimize any possible effects of logging on bears. These include no logging around major bear concentration areas along streams, locating camps away from heavy bear use areas; and leaving timber fringes around grass flats known to be good bear habitat.

The following statement is quoted from the publication The Brown - Grizzly Bear In Alaska - It's Ecology and Management, Alaska Department of Fish and Game.

"Logging activity may actually benefit the brown bear population. Timber cuts are being made from over-aged climax spruce, hemlock and cedar stands, forest types notoriously sterile as habitat for brown-grizzly bears. Openings created by cuts would seemingly initiate successional patterns, certain stages of which would create conditions more favorable to bears than the present climax state. The early pioneer stages with abundant grasses and other herbaceous growth would appear especially attractive to bears. These requisite foods are scarcely represented in climax stands. A rotational cut would thus result in mixed-aged forest stands some of which would always be of prime importance to bears."

The statement was not made of Afognak but speaks to the importance of successional variations to the food chain of bears.

8. HAS AN ENVIRONMENTAL STATEMENT BEEN PREPARED?

An Environmental Impact Statement was prepared and filed with the Council of Environmental Quality on April 15, 1974.

9. WERE PUBLIC MEETINGS HELD IN KODIAK TO REVIEW THE CONTENT OF THE ENVIRONMENTAL STATEMENT?

Yes. In addition, public meetings were held concerning the original Sale and the revision.

10. WILL REFORESTATION OF THE LOGGED AREA BE A PROBLEM?

The number of trees now growing on formerly logged areas on Afognak has been found adequate, but size and distribution is less than optimum. Our research branch has reported slow growth (as compared to southeast Alaska) of young trees due to grass and brush competition in a 25-year old logged area in Kazakof Bay. (Reference Research Note PNW #176, May 1972.) Afognak Island lies at the margin of the westward extension of Sitka spruce, and in this zone reforestation by natural means cannot be guaranteed. If for any reason it is not adequate, measures will be taken to help insure that cutover areas will be satisfactorily reforested in a reasonable period. Some of these measures include one or more of the following:

a. plant Sitka spruce seedlings.

b. mechanically remove competing brush and grass around planted trees.

c. selectively apply registered herbicides to remove competing vegetation where necessary to insure adequate growth of seedlings.

d. apply fertilizers to stimulate tree growth.

11. HOW WILL THE ALASKA NATIVE CLAIMS SETTLEMENT ACT AFFECT THE SALE?

The sale predates the Act but a portion of the sale lies within areas available for native selections. Some village corporations have filed applications for land that contains about 1/3 of the timber in the sale. More land selections may be made.

The Act provides:

"Sec. 15. Notwithstanding the provisions of existing National Forest timber sale contracts that are directly affected by conveyances authorized by this Act, the Secretary of Agriculture is authorized to modify any such contract, with the consent of the purchaser, by substituting, to the extent practicable, timber on other National Forest lands approximately equal in volume, species, grade, and accessibility for timber standing on any land affected by such conveyances, and, on request of the appropriate Village Corporation the Secretary of Agriculture is directed to make such substitution to the extent it is permitted by the timber sale contract without the consent of the purchaser."

12. WHY HAS THE PAYMENT FOR TIMBER CUT (STUMPAGE) BEEN DECREASED?

As mentioned, environmental requirements have become more stringent since the sale was first sold and this has increased the cost of logging. This will mean a reduction in stumpage and lower net return to the Federal treasury.

13. WILL THE LOGGING CAMP IN KAZAKOF BAY INCREASE ANY BENEFIT OR COST FOR KODIAK?

There will be a demand on the town of Kodiak for goods, services, and transporation to supply the expected 30 to 60 man logging camp. This will increase employment in the area to supply these needs and thereby provide an additional tax revenue base. The logging camp and equipment is taxable. A quarter of all stumpage receipts is paid to the boroughs through the State of Alaska for the timber cut on National Forest land. This money contributes to the support of schools and roads.

14. IF A MILL IS LOCATED ON KODIAK, WHERE WILL THE TIMBER COME FROM TO SUSTAIN IT AFTER THE PERENOSA SALE IS COMPLETED?

The volume to sustain continuous operation of the mill will come principally from the timber resources on Afognak Island. Actually only a very small percentage of the commercial timber of Afognak is in the Perenosa Sale. It's likely that timber from other islands of the Kodiak group may also be milled there.

15. WILL THIS SALE AFFECT THE U.S. BALANCE OF PAYMENT DEFICIT?

Yes. America has imported more products that it has exported in the past decade to Japan. Timber not in demand domestically - like the Sitka spruce from Alaska - is one commodity the U.S. can export to help regain some of the dollars spent for importing foreign goods.

STATE OF ALASKA

JAY S. HAMMOND, Governor

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

SUBPORT BUILDING
JUNEAU 99801

April 2, 1975

The Honorable Ted Smith
Alaska State Legislature
House of Representatives
Pouch V
Juneau, Alaska 99801

Dear Ted:

In response to your request of March 19, 1975, re: high or marginal fish production versus high or marginal damage from logging in the Peranosa timber sale area, Afognak Island fish production is presently depressed to the point that commercial salmon fishing was completely closed last season in an effort to restore the streams to their past production levels. When these streams are producing in accordance with their capabilities they are typical of others in the region.

More noteworthy is the fact that of six or so major producers on Afognak Island, three of the systems; Danger River, Peranosa River, and Peramanoff River, are directly impacted by the sale. Foremost among these is the Peranosa River, which is adjacent to the road system now under construction.

Addressing the subject of damage, the volcanic nature of the soils may present extreme hazards to maintainance of quality fish habitat. Experience on Kruzof Island in southeastern Alaska has shown that volcanic soils may be extremely unstable when disturbed, with landslides and massive erosion resulting from road building and materials sites.

The uncertainty of the ability to provide the volume specified in the contract area in light of Native Claims Settlement is also a significant factor. When confronted with the necessity to meet contract obligations in an economically feasible manner, fish and game values are generally the first to be neglected or compromised. Logging related impacts are dependent upon the quality of management and the manner and places in which the operations are conducted. Quality management depends upon having enough options available. In the case of the subject sale, we feel the physical and economic environment risks significant damage to significant fisheries should the sale be executed as presently planned.

Sincerely,

Robert E. LeResche

ALASKA DEPARTMENT OF FISH AND GAME
SUPPLEMENTAL STATEMENT FOR THE RECORD

on

HJR 13

before the

COMMITTEE ON RESOURCES
HOUSE OF REPRESENTATIVES

April 3, 1975

The House Committee on Resources has requested that the Department of Fish and Game present detailed testimony regarding the Perenosa Timber Sale on Afognak Island. The Committee has expressed particular concern as to the potential adverse impact of timber harvesting on Afognak's fish and wildlife, and the likelihood of long term or permanent damage to fish and wildlife habitat. Consequently, our testimony specifically addresses this concern.

Rather than merely stating our conclusions, however, we have included in the first part of our statement a lengthy review of the potential effects of timber harvesting and accompanying activities on fish and wildlife generally. Our intent here is to give the Committee enough background information so that individual Committee members may draw their own conclusions as to the probable effects of logging on the fish and wildlife resources of Afognak, rather than forcing them to rely on our own estimates. In addition, so that there is no disagreement as to the validity of this background information, we have included almost entirely only those facts which appear in Forest Service studies or publications, with the few exceptions pertaining primarily to the effects of clearcuts on wildlife survival. The second part of the testimony discusses the relative merits of the Perenosa Timber Sale in particular.

We have attempted to be as specific as possible in describing the probable effects of the sale on fish and wildlife success. We would point out that it is difficult, however, to identify likely fish or wildlife losses in terms of explicit quantities. The principal reason for this is that the Forest Service sale implementation plan has been purposely rather indefinite, with many of the determinations regarding fish and wildlife protection to be made well after logging has commenced rather than before hand. For example, it has become evident that the Forest Service has already departed from the plan set out in the Environmental Impact Statement (EIS) by changing the location of a major road to an area which is an important wintering ground for elk.

Persons concerned with this type of issue have sometimes asked why the Department of Fish and Game does not have complete and thorough information on all fish and wildlife within a particular area well before the EIS is developed. The answer is that there are a large number of timber sales being conducted within Alaska at any given time, and we try to do the best we can within the limits of time, personnel, and the opportunities for participation made available by the Forest Service. Moreover, the Forest Service is required by Federal law [Multiple Use/Sustained Yield Act of 1960, (16 USC 528 - 531)] to manage both timber and fish & wildlife on the basis of co-equal priority, and on the principle of sustained yield. Since it is the Forest Service which is initiating the development in the first place, we feel it is incumbent upon them to insure that fish and wildlife are adequately protected before proceeding.

Our testimony on the Perenosa Timber Sale follows.

POTENTIAL EFFECTS OF LOGGING ON FISH AND WILDLIFE GENERALLY

A. FISH AND SHELLFISH

Fish and shellfish residing in or adjacent to national forests must be guaranteed a high quality habitat in order to be maintained. Generally, a desirable habitat consists of suitable grounds for regeneration and rearing, high quality water, and protection from physical damage and damage to the biological community.

Frequently, there is a tendency to measure habitat damage only in terms of actual fish or shellfish mortality. However, the quality as well as the quantity of fish and shellfish produced must be kept in mind. Adverse impact on a fish habitat within a national forest, while not actually causing fish kills in that location, may result in poor regeneration or decreased growth rates in resident populations, which in turn diminishes the commercial or recreational value of fisheries resources. Thus, the absence of dead fish floating on the water does not conclusively indicate the absence of resource damage through undesirable habitat alteration.

Destruction of or damage to fish and shellfish habitat resulting from timber harvesting and accompanying activities may appear in a number of forms, which are described below.

1. Sedimentation

a. The relatively youthful topography of many areas of Alaska combined with heavy precipitation and steep slopes make many land areas highly susceptible to erosion, which may be substantially aggravated by activities such as removal of vegetation, log yarding, road construction, and construction at stream crossings.

b. Areas subjected to heavy erosion and an absence of vegetation may experience a more rapid runoff of precipitation into drainages, leading to high stream stages. High mortality of salmon has been connected to high stream stages, which may remove eggs from their protective gravel cover and expose them to predation, physical damage, or deep burial due to shifting gravel. High water levels may also cause debris (e.g., logging slash, logs, stumps) to enter a stream which may in turn cause gravel excavation and redisposition.

c. High stream levels also result in increased levels of sediment entering streams. On occasion, sediments may be flushed into estuarine areas which serve as habitat for shrimp and crab.

d. Suspended sediment (that actually flowing with the water) may be harmful to fish if present persistently. Accumulation of silt on gill filaments may restrict the ability of the gills to aerate the blood, eventually causing death. While siltation is apparently rarely found

in concentrations which are undoubtedly lethal, nonlethal concentrations may well have substantial adverse effects on the growth and condition of fish, making them perhaps smaller and less resistant to elements causing natural mortality.

e. As a side effect, streams which have heavy siltation levels will be murky and turbid. Since salmon and trout are sight feeders, fishermen can expect to have less angling success in such streams.

f. Deposited, as opposed to suspended, sediment consists of particles which have settled out of the water onto streambeds. Deposited sediment affects salmon spawning habitat by inhibiting the flow of oxygen-bearing water within the gravel where eggs and alevins are incubating, and by establishing a physical barrier to the emergence of fry up from the gravel. Bedload sediment may also reduce the habitat of the aquatic insects which influence the growth condition of rearing fishes. Species composition of aquatic insects may also change for the worse.

g. Sediment is one of, if not the most important, fact influencing the salmon and trout reproduction in streams. Studies have shown that the survival rate of salmon eggs is in direct proportion to the flow of water through the gravel, which in turn varies with the concentration of sediment.

h. The effects of deposited and suspended sediment referred to above have concerned only inorganic sediment. Organic sediment may also contribute to the degradation of fish habitat. Bark, especially, may create a significant oxygen demand as it decomposes, and can produce excessive amounts of slime bacteria which then may suffocate incubating eggs and alevins.

i. The above effects have been described mostly as they refer to anadromous fish. However, they apply as well to resident populations of fishes. Fish stocks which spend the entirety of their life cycle within fresh water on national forests are more susceptible to sedimentation over the long run because of their constant presence. So also are species of anadromous fish (such as silver and king salmon) which spend a year or more rearing in fresh water before migrating to the sea. Therefore, increased oxygen demand by decaying organic sediment, the effects of suspended sediment, and the reduction of habitat for important aquatic insects are also factors affecting rearing of juvenile fish as well as the incubation of eggs and alevins, and the general habitat for mature resident fish.

2. Water Temperature

Water temperature, along with sediment content, is a critical factor in maintaining a satisfactory habitat in streams for salmon and trout.

a. Stream water temperature depends on a number of factors, including climatic conditions, volume of streamflow, length of stream exposed to solar radiation, depth of stream, and ground water and tributary influences.

b. Since the principal factor affecting stream temperature is direct solar radiation, the presence or absence of streamside vegetation directly

controls stream temperatures.

c. Experiments in Southeastern Alaska have confirmed earlier studies conducted in the Pacific Northwest demonstrating substantial temperature increases in streams where clearcutting to the banks had taken place. Small streams seem to be most susceptible to large temperature increases.

d. While there have been fish kills in Southeastern Alaska in streams as a result of excessive temperatures, direct mortality is not the only effect. Ideal summer temperatures for salmon range from 54° to 58°. However, temperatures in areas which have been logged may range up to 85°. Because higher temperatures increase metabolic rates in salmon and require more food to initiate growth, sublethal temperatures may adversely affect the growth and condition of juvenile salmon.

e. Some salmonids (especially silver salmon) often favor relatively still water during the rearing phase, such as that found in sloughs or small tributaries. Because of the negligible volume of flow in such waters, critical temperatures may be reached sooner where protective vegetation is absent.

f. While water temperature in the main streams within a watershed may receive the most attention, removal of vegetation in tributaries can influence overall watershed stream temperatures, since cold water in tributaries may be an important factor in controlling downstream temperatures.

g. In streams where water temperatures are warm to begin with, higher temperatures may contribute to lower dissolved oxygen rates and promote the growth of slime bacteria or fungi which could cause excessive mortality to incubating eggs.

h. The effects of high water temperatures during the spawning and rearing phases must be separated. Those species of salmonids (such as pink or chum salmon) which utilize fresh water only for spawning or incubation will be exposed to potential adverse temperatures for a shorter period than those (king and silver salmon) utilizing fresh water for rearing as well. For rainbow trout and those Dolly Varden and cutthroat trout which reside exclusively in fresh water, the danger is constant.

i. For pink and chum salmon, which incubate in fresh water but primarily move to salt water for growth and feeding after emergence, water temperature plays its main role in regulating the duration and timing of incubation, hatching, and emigration from the freshwater system. A given total number of temperature units is required (from the time of egg deposition and fertilization) for the eggs to hatch. If this development is accelerated by even a very minor temperature increase (2° or 3° F.) due to removal of streamside vegetation, fry may emerge considerably earlier than normal. Downstream migration might be impeded at that time or conditions for growth or survival in the sea may be unfavorable until later.

j. Much further needs to be learned about the effects of logging on stream temperatures and the types of logging operations which will avoid temperature problems. Patch cutting (alternating streamside blocks of canopy and clearcut) does not seem to provide a solution, for example, where air

temperature exceeds stream temperature; rather, the stream simply heats more slowly in canopied areas than in clearcut areas.

k. Since direct solar radiation is the principle cause of rising stream temperatures, the climatic conditions will determine the amount of temperature increase. Since the number of warm temperature days varies considerably from year to year in parts of Alaska, so also will the potentiality for excessive stream temperatures. As an example, for the month of July in Juneau over the years 1950 - 1971, the number of 70°+days varied from 1 to 18.

l. While most of the concern over removal of streamside vegetation is with summer temperatures, winter stream temperatures may be affected as well. During winters where there is little insulating snow cover accompanied by sustained cold spells, the lack of insulation by vegetation may lead to a lowering of water temperature (due to back radiation) which may be more critical than summer temperature increases. Streams and subjacent gravel beds may become completely frozen.

3. Streamflow

a. Streamflow generally increases after clearcut logging. Whether the net increase is substantial depends on the size of the clearcut areas and the climatic conditions within the particular watershed.

b. During natural high water stages, increased streamflow may cause mortality of eggs and alevins from gravel bed movement. Flushing of important aquatic insect populations may also occur.

c. Increased streamflow may, on the other hand, increase oxygen supplies and decrease water temperatures.

4. Water Chemistry

a. Dissolved oxygen content is most important in considerations of water chemistry. Developing eggs require increasing amounts of dissolved oxygen up to and including the hatching stage. Feeding and growth of young salmonids is better in waters with higher dissolved oxygen concentrations.

b. Studies have shown reductions of dissolved oxygen levels in streams after felling streamside timber. Layers of debris on the streambed often cause such reductions first in the intragravel water where eggs are incubating, and later in surface waters. Reductions may be rapid if there is enough logging debris to create an oxygen demand through decomposition.

c. Where a layer of debris is deposited on the streambed so as to reduce water flow to the intragravel area, lack of dissolved oxygen may be accompanied by increased concentrations of carbon dioxide, ammonia, and other metabolic waste products of developing eggs and alevins.

5. Logging Debris

a. Logging debris (logs, branches, bark, leaves) entering the stream

may cause oxygen demand through decomposition, form a barrier on the gravel surface reducing gravel/surface water interchange, impound waters normally flowing over riffles and being oxygenated, produce slime bacteria which will smother eggs, and contribute to temperature increases resulting from reduced water velocity through uncanopied areas.

b. Fine logging debris can change the habitat for aquatic insects. It may also fill spaces in rock and gravel areas which are living spaces for insects and cover for small juvenile fishes, and decrease the survival ratio of alevins if accumulation is during egg incubation.

c. Log jams may block migration of fish to upstream spawning and rearing areas. Substantial jams affect streambed topography, gravel stability, sediment deposits, and streamflow.

d. Generally, fine debris can be considered harmful to the aquatic ecosystem in all cases.

6. Herbicides, Insecticides, and Other Chemicals

a. Data is generally lacking on the effects of chemicals on Alaskan aquatic organisms since such chemicals are not often used by the Forest Service. However, it has been shown that such chemicals can be toxic to fish, and may also eliminate insect populations which are important food sources for fish.

7. Estuaries

a. Salt water is extensively used in Alaska for storage and transportation of logs (log dumps and log rafts). Logs are usually stored in shallow bays. During the dumping and rafting, bark is knocked off of logs and sinks to the bottom, often in large quantities.

b. Accumulations of bark can greatly increase oxygen demand, resulting in reduced populations of marine organisms, and smother the bottom so thoroughly that repopulations is prevented. These accumulations may persis for a long time, and marine animals are very scarce in some areas.

c. Water storage of logs also leads to the release of leachates which further increase the oxygen demand in the area.

d. Marine animals most likely to be affected include rearing pink and chum salmon, clams, crabs, and shrimp.

e. Note that logging debris and sediment deposited in streams adjacent to clearcutting within the forest itself may be flushed into estuarine areas, with resulting adverse effects.

B. WILDLIFE

1. Deer

a. There has been a considerable controversy over the relative effects of clearcut logging on deer populations. Frequent reference is made to the so-called "edge effect" created by clearcut logging, which pertains to the tendency of deer to favor the edges of open areas as habitat. The alleged benefit of clearcutting is that the removal of the forest canopy permits the rapid growth of plants and shrubs which serve as browse for deer, and that the presence of a number of clearcut areas within a deer range results in a net increase of browse, with favorable effects on deer population.

It is probable true that clearcuts, if properly shaped and located and of an optimum size (e.g., 25 - 40 acres), may be of benefit to deer because of increased browse production. However, in Alaska these benefits are primarily confined to the summer only; during winter, the absence of a canopy causes much deeper snow in clearcut areas so that the browse becomes unavailable. If there are many clearcut areas, the lack of available browse within a mature forested area may lead to a net decrease of browse during the critical winter months. In addition, there is evidence that the type of browse that is produced in clearcuts is of a less preferred type than that occurring in climax forests.

The increased browse that may occur within a clearcut will generally remain available only for the first 20 years or so after logging. Thereafter, the forest canopy will begin to close with such density that plants and shrubs serving as deer browse will be unable to compete, and will die off. Only when the trees have matured and open spaces appear in the canopy (at least 60 - 80 years after the sale) will preferred plants begin to come back, if at all. Browse production equivalent to that prior to logging may not occur until the end of the rotation period (100 - 150 years). From the standpoint of deer habitat, therefore, the loss of x acres of browse-producing mature forest must be balanced against the gain of 20 years of summer-only browse production, followed by 40 - 60 years of virtually no browse production, followed in turn by several decades of less than complete browse production.

The "edge effect" is well-named in that it indicates deer only use the edges of clearcut tracts. Consequently, large clearcuts will result in large middle areas not used at all, and which represent lost habitat.

If clearcutting is employed, it is extremely important that large tracts of low-elevation mature forest be left alone for the benefit of deer during the winter. Deer frequent such areas (especially along beaches) because the temperatures are warmer and there is a smaller accumulation of snow. Snow depths of more than 2 feet make browse unavailable, so there will be none in clearcut areas and none at higher elevations. If low elevation forest is not maintained, there will be substantial deer mortality during severe winters.

b. Logging may also adversely impact on deer by restricting their movements. Remaining slash and debris in clearcuts makes such areas

impassable by man or large mammals for many years after harvesting. Movement is also restricted as the forest canopy first closes (about 20 years) because of the extreme density of the vegetation. This may be important if it prohibits access to streams, travel along established migration routes, or movement to areas where food is available. Therefore, within a particular deer range, it is important that both the number and size of clearcut areas be considerably limited.

Logging roads, with attendant noise, fumes and traffic, may become barriers to deer migration.

c. In areas where extensive clearcutting has taken place, deep snow in the winter may substantially hamper deer movement, making feeding more difficult and increasing vulnerability to predators such as wolves.

2. Elk

a. The same comments made with respect to deer apply generally to elk as well.

b. Elk, like deer, are extremely vulnerable to severe winters. During winter months, elk usually frequent beach areas in mature forest where snow depth is least and food is available.

c. Elk have a tendency to frequent the same calving areas year after year, which is probably due to the favorable environment of those areas. If such areas are clearcut, they will be lost as habitat.

d. Use of clearcut areas for browse by elk appears to be very light during the years immediately after harvesting. As vegetation preferred by elk invades logged areas, use increases for a few years, declining again when conifer growth crowds out preferred plants.

3. Brown Bear

a. Although brown bears hunt salmon as part of their diet, grazing and the use of berries constitutes about three-fourths of food intake. Therefore, considerations of browse production mentioned with regard to deer are equally important for brown bear.

b. Beach grass and sedge flats are important spring food sources for brown bear. Most feeding on tideflats and beaches is along a forested fringe, indicating the need for this type of cover. In general, it is necessary to maintain escape cover near feeding areas, whether tideflats, beaches, or salmon streams, as this appears to be an important part of their environment.

c. Although browse constitutes the majority of the brown bear's diet, salmon are very important as a source of animal protein. Salmon streams within bear ranges must be maintained and accompanied by blocks of timber or leave strips for escape cover.

d. Brown bear ordinarily remain in an area even though logging is being conducted in an adjacent area. This increases the possibility of bears being shot as nuisances. It also indicates the importance of adjusting

logging operations so that bears are not crowded out of their favored habitat areas.

e. Grasslands, tideflats, and beach fringes (especially where strawberries are present) are prime feeding areas for brown bear. These areas should not be encroached upon through timber harvesting, yarding, road construction, logging camps, log dumps, or other activities which would remove their habitat value.

4. Birds and Furbearers

a. The number of birds and furbearers populating Afognak Island make it undesirable to go into a detailed discussion of the potential effects of logging on their respective habitats.

b. The presence of ducks and shorebirds make it important to preserve grass tide flats, inland lakes, and ponds which are significant habitat areas.

c. Bald eagles have been shown to be extremely sensitive to the presence of man. The US Department of the Interior presently requires a 330 foot radius of undisturbed forest around each eagle nest so that noise, fumes, or other factors do not destroy the habitability of the nesting area. There is evidence that 330 feet may not always be enough. Similar treatment must be afforded the peregrine falcon.

d. Beaver, marten, fox, and otter all react in varying degrees to logging. Marten appear to avoid areas that have been recently logged. Otters frequent beach and stream areas.

e. As a very general rule, with the exception of special management considerations that may apply to dens of furbearers and nests of eagles and falcons, if satisfactory habitat is maintained for brown bear, deer, and elk within a given area, sufficient protection should be provided for other species of wildlife.

C. OTHER ADVERSE EFFECTS ON FISH AND WILDLIFE

Where an area is subjected to timber harvesting, for the first time especially, there are a number of other effects which must be considered as influencing the welfare of fish and wildlife.

1. Logging Camps

a. Logging camps, made up of the personnel actually operating within the forest, may have as many as several hundred residents. It can be expected that those residents will take advantage of hunting and fishing opportunities, sometimes illegally.

b. The presence of food and garbage within a camp will tend to attract bears if not properly cared for. In addition, the presence of loggers and other personnel in the woods will increase man/bear confrontations. It is, therefore, likely that a certain number of bears will be killed as nuisances.

2. Roads and Developments

a. The construction of roads and other facilities increasing the accessibility of an area will lead to increased utilization by the public. Greater harvests of fish and game will certainly result. If hunting and fishing pressure is sufficient, intensified fish and wildlife management will be necessary, at public expense.

b. Roads, vehicles, and the presence of man in large numbers may deter wildlife from utilizing areas previously frequented. If development is widespread, there may be a significant reduction in habitat area, which can be important if timber harvesting has decreased or terminated the habitability of other areas.

c. Increased utilization of an area will result in an increase of illegal hunting and fishing and therefore an increase in enforcement effort, at public expense.

II. POTENTIAL EFFECTS OF LOGGING ON AFOGNAK ISLAND

It is fair to say that the Forest Service has been unusually cooperative with respect to the Perenosa Timber Sale. A number of surveys were conducted of the area by Forest Service and Department of Fish and Game personnel, and some of the recommendations made by ADF&G at the Draft Environmental Impact Statement stage were incorporated into the Final Environmental Impact Statement.

Nevertheless, because of substantial defects in the proposed plan together with some recent developments regarding native claims, the Department of Fish and Game has very serious reservations about the sale and does not believe it should take place before a number of questions are answered and a re-evaluation is completed. If the Department were to recommend otherwise, it would be in violation of its constitutional directive to manage fish and wildlife on the basis of sustained yield.

Our concerns on the Perenosa Timber sale follow.

1. Reforestation

There appears to be a major problem regarding natural reforestation on Afognak Island, stemming from very poor soil fertility in many parts of the area. Two Forest Service soils scientists who examined small clearcuts undertaken several decades ago expressed a great deal of doubt as to whether adequate regeneration would take place if the Perenosa sale were carried out. They questioned whether shelterwood cutting should be used instead of clearcutting, and whether large scale timber harvesting should take place at all. In general, they recommended extreme caution until the ability of Afognak to naturally regenerate was accurately assessed.

Despite these warnings from their own scientists, the Forest Service plans to carry out a long term sale plan which will result in the harvest of most if not all of the commercial timber in the area. It must be emphasized that the sale presently under consideration is only one of several that will be conducted in that location.

If the Forest Service has miscalculated the capacity of Afognak to naturally regenerate timber, the effects on resident fish and wildlife could be adverse in the extreme. Their objective is to maintain stands of timber in various stages of growth so that there will always be enough mature forest and the wildlife habitat will be varied. This objective, however, is based on an estimated 110 year rotation which they say is the time it will take for clearcut areas to regenerate to maturity. On the basis of the information submitted by their soils experts, however, the rotation period could easily be twice that.

We have already noted the importance of vegetation to fish and wildlife. The Perenosa sale plan contemplates harvesting of watersheds used by trout and salmon for spawning and rearing. If reforestation is slow, the effects of vegetation removal such as increased stream temperatures and sedimentation will be prolonged. Critical wintering and feeding areas for deer, brown bear, and elk removed by clearcutting may take forever to return to the point of becoming useful habitat again. Moreover, the Forest Service indicates in the EIS that if reforestation is unsatisfactory, herbicides may be used to reduce competing vegetation. This "competing vegetation" is in fact the "increased browse production" which the Forest Service points to as the principle benefit of clearcut areas.

The EIS also points out that the Afognak sale area will be the only area used to pay off the capital investment in the sawmill that will process Afognak timber. We can foresee a tremendous temptation to continue harvesting timber from Afognak in the future notwithstanding unsatisfactory regeneration in order to protect the investment in the mill, with a further reduction in wildlife habitat that would amount to be permanent in practical effect. It would be preferable not to reach that point.

2. Native Claims

A considerable amount of the land within the Perenosa sale area has been selected by native villages. This land appears to encompass over 30% of the cutting units laid out by the Forest Service for the Perenosa sale. The natives do not want the Forest Service to harvest timber on the selected lands, since they wish to do this themselves. Rather, they want the additional 30+% to be taken from the rest of the sale area.

In addition, the eligibility of two other villages to select land on Afognak has not yet been determined.

Since the Forest Service has stated that timber sufficient to take care of the investment in the sawmill will all come from Afognak, the question is raised of whether the Forest Service will have to produce this volume from areas outside of those selected by the natives. The Perenosa sale has been revised once because of objections over the likely effects on fish and wildlife of the original plan, which the Forest Service admitted were legitimate.

A further revision necessary to accomodate the preferences of the natives may very well result in the loss of the protective measures represented by the revision, which could in turn be aggravated by the regeneration problems described above.

If both the Forest Service and the natives will be harvesting timber in large quantities on Afognak, the Perenosa plan should be re-evaluated to take into account the loss of fish and wildlife habitat on Afognak as a whole.

3. Fish and Wildlife Protection Generally

With respect to the general plan for fish and wildlife protection, we would quote from the comments submitted on the DEIS by the Secretary of the Interior:

> "Very little description of mitigating measures is contained in the draft. There are numerous references to the need to identify and avoid critical wildlife areas, the desirability of using road construction and logging methods which minimize disturbance of the soil, the desire to inform the purchaser of the importance of archeological sites, etc. These appear to be future 'nice to do' proposed actions. There is no indication that the sale will be fully planned, inventoried, and mitigating measures stipulated before cutting starts. There is no indication which mitigating measures were considered and prescribed as stipulations to the sale."

The Federal Highway Administration stated that "[t]he Forest Service has done an excellent job describing the existing environment, but it has given only cursory attention to the environmental impacts of the proposed action."

In fairness to the Forest Service, they did undertake such activities as elk herd surveys in cooperation with ADF&G and made several revisions in the plan designed to protect wildlife habitat. Cooperation in the Chugach National Forest has to date been much better than that with respect to sales in the Tongass National Forest.

Nevertheless, while the Perenosa EIS does describe the existing environment well, the text pertaining to impacts on fish and wildlife and mitigating measures is vague and equivocal.

a. The EIS states that the primary effect of the sale on fish and wildlife will be "to increase man's use of these resources through increased access provided by roads and presence of a resident population". [p. 38]. No doubt this will be of considerable impact. Nevertheless, with 12,000 acres of clearcuts comprised of 121 units of up to 228 acres individual size, and with those units located in areas presently utilized by brown bear, deer, elk, marten, fox, beaver, land otter, salmon, nd trout, increased use by man is certainly not going to be the only or the primary impact.

b. On page 39 of the EIS, the Forest Service says that the harvest of timber "may affect fish habitat". They point out that no logging is "planned" adjacent to major salmon streams, the harvest of "significant acreages of the watersheds of salmon streams is planned." This clearly

includes rearing areas for immature salmon. Yet, "[t]hese affects cannot be quantified at this time and will require continued monitoring to assess the impact that logging may have upon fish so that logging systems can be adjusted to minimize adverse effects which may occur." With severe reforestation problems likely on Afognak, and the heavy erosion potential due to unstable volcanic ash soil, this kind of after-the-fact repair approach is not acceptable.

c. Also on page 39, it is said that "measures such as timing of road construction and logging, buffer areas and modification of logging methods will be necessary to protect fish habitat." On page 59, however, the Forest Service specifically rules out "advanced" logging systems (skyline lead, balloon, helicopter), despite the extensive erosion potential on Afognak and the tendency of highlead systems to contribute to erosion. Paragraph C6.5e of the timber sale contract indicates that trees will be felled directly into streams. Although other measures are included designed to minimize adverse impact, these are not always enforced due to poor sale administration.

d. The EIS says that there is a need to"further identify" key wildlife habitat, and that it "may be necessary to further adjust harvest unit layout or timing to protect wildlife populations." Yet, under Unavoidable Impacts the only adverse impacts mentioned are "disturbance" and "temporary displacement" of wildlife. The previously mentioned comments of the Secretary of the Interior stated that the sale plan will "certainly have an adverse effect on elk herds", which fact is not mentioned in the draft.

e. Despite references to mitigating measures, page 41 of the EIS indicates that there are 60 miles of protected coastline within the sale area, 17 of which will be logged to the waterline. If reforestation becomes a substantial problem, a large area of what is bound to be important wintering grounds for elk and deer may be removed indefinitely.

f. The contract provisions are, in a number of places, vague, wholly discretionary, or in apparent contradiction with the EIS. For example, while the EIS is supposed to be an assessment of the plan for the operation (including road systems and their impact), the contract allows for the construction of additional roads if convenient [Paragraph B 5.25]. Roads are not to be located adjacent to fish producing streams "unless an alternate location is impractical." [Paragraph C6.4b(2)]. Blasting adjacent to streams is to be limited to times when eggs or fry will not be damaged. [Paragraph C6.4b(3)]. How is the contractor to know when this is? In addition, in Part C of the contract (which contains special provisions included because they are appropriate to the particular sale), a provision is added governing use of log rafts [Paragraph C6.85] despite a statement in the EIS that no use of log rafts or water storage is "planned". [p. 36]

g. Parts of the EIS simply do not take into account what should happen if the plans of the Forest Service go wrong. For example, although the EIS does hint that there may be a reforestation problem on Afognak, it does not include the rather dire warnings contained in the soil survey reports. Despite the distinct possibility of the indefinite loss of wildlife habitat as a result of poor reforestation, the effect of the sale on wildlife habitat is described as follows:

"The planned harvest of timber from the sale will result in the conversion of some winter range areas of elk and deer from essentially an unbroken stand of mature forest consisting of mature trees and openings in various stages of forest succession. This conversion will be of benefit to elk and deer by providing better winter range conditions. Successive cuttings of mature stands will maintain browse in clearcuts and fringe areas." [p. 38]

A similar example occurs on page 48:

"Some soil disturbance and erosion will occur on logged areas, road locations, camp sites, and barge loading and log storage areas. Re-vegetation and properconstruction measures are planned to minimize erosion and soil disturbance."

h. The EIS does not mention that salmon fishing in the vicinity of Afognak Island has been severely limited in an attempt to rebuild salmon runs in Island streams to their potential level of production. It would be a mistake to further aggravate the precarious condition of these fisheries by logging in these drainages. Nevertheless, the Perenosa River, for example, considered the best salmon producer on the Island, will be impacted by bridge crossings, a road parallel to the River, and logging in the upper portions.

i. Although the Forest Service has conducted some wildlife surveys on the ground, there is evidence that much of this sale was laid out using aerial photographs alone. This may explain why the EIS fails to be explicit in many places and why the Forest Service intends to develop specific wildlife information and protection measures only after logging has already been commenced.

j. Even if the plan is relatively definite, there is no guarantee that it will take place exactly as described. For example, a road is presently being constructed in the sale area in a location considerably different from that indicated in the EIS. The road will now go through an area which serves as wintering grounds for elk. The Department of Fish and Game was not consulted about this change.

By including these examples of deficiencies in the EIS, we do not mean to suggest that the Forest Service is merely paying lip service to fish and wildlife protection measures and that they intend to cut timber and forget about everything else once the sale gets under way. Rather, our objection is to their approach of putting off a firm fish and wildlife protection plan until timber harvesting is actually in progress and it may be too late to implement proper measures; to reliance upon a "very broad and general" wildlife habitat survey during the planning stages and waiting to "further identify key wildlife habitat" during the sale itself; to failing to quantify suspected adverse effects and waiting to "monitor" and "assess" impact after logging has been completed, emphasizing repair rather than prevention; to ignoring what may be a severe regeneration problem and failing to develop a cautious approach coupled with an effective contingency plan should anticipated result fail to materialize; to the absence of specific protective measures in many areas where the risk of damage to fish and wildlife habitat is known to be very high.

RECOMMENDATION

This is not to say that it is impossible to conduct a timber sale on Afognak Island which will not result in unacceptable fish and wildlife damage. While it is clear that timber harvesting may lead to fish and wildlife mortality if improperly conducted, it is equally clear that timber harvesting does not automatically mean fish and wildlife depletion.

At the present time, it appears that the combination of unknown reforestation capacity, native land selections, and incomplete fish and wildlife protection plans would make it inadvisable to conduct the Perenosa sale until a re-evaluation has taken place and additional information is obtained.

Forest Service personnel of the Chugach National Forest have exhibited a high degree of cooperation with the Department of Fish and Game on many matters in the past, including aspects of the Perenosa sale. They have indicated to the Department a willingness to further discuss the elements of the Perenosa sale with a view towards eliminating the problems which stand in the way of its successful completion. The Department intends to initiate these discussions as part of our general policy to negotiate timber/fish & wildlife conflicts on national forests. Perhaps the Committee would like to direct its Resolution so as to encourage further discussion and re-evaluation of the Perenosa sale by the Department and the Forest Service.